DOCUMENT RESUME

ED 310 222 UD 026 993

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TITLE Moving Into and Out of Poverty: Data from the First SIPP Panel File.
PUB DATE 89
NOTE 11p.
PUB TYPE Reports - Research/Technical (143) -- Statistical Data (110) -- Legal/Legislative/Regulatory Materials (090)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Blacks; Census Figures; *Comparative Analysis; Hispanic Americans; *Low Income Groups; *Poverty; *Racial Differences; Statistical Analysis; *Statistical Bias; *Statistical Studies
IDENTIFIERS Panel Studies

ABSTRACT

This report examines the poverty status of persons in 1984 and 1985 using the complete panel file of the 1984 Survey of Income and Program Participation (SIPP) and compares those findings to poverty estimates based on the Current Population Survey (CPS). Although the CPS is used to obtain official estimates of persons in poverty, SIPP captures the persistence of poverty among given individuals and families. SIPP produced lower estimates than CPS for the following reasons: (1) a larger amount of transfer income is captured in SIPP; (2) negative self-employment income cannot be recorded in SIPP; and (3) complete information on any changes in household composition that might have occurred during the calendar year are included in SIPP. An investigation of time-in-sample bias in SIPP was inconclusive. The following findings are reported: (1) 11.5 percent of the population were poor in 1984, 11 percent were poor in 1985, and 8.7 percent were poor in both years; (2) 13.8 percent of the population were poor in either 1984 or 1985; (3) 19 percent were poor or near-poor in either 1984 or 1985; (4) 75 percent of those who were poor in 1984 were also poor in 1985, and 86 percent were either poor or near-poor; (5) about 2 percent of those who were non-poor in 1984 became poor in 1985, and about 4 percent became near-poor; and (6) Black or Hispanic non-poor were about twice as likely as Whites to become poor or near-poor. Nine tables of statistical data are appended. (FMW)

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MOVING INTO AND OUT OF POVERTY: DATA FROM THE FIRST SIPP PANEL FILE

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INTRODUCTION

Official annual estimates of persons in poverty are obtained from March supplements to the Current Population Survey (CPS). We have used that survey to track the prevalence of poverty over a period approaching thirty years.

As valuable as the CPS series on poverty has become, there are aspects of poverty that cannot be examined with CPS data. One important dimension of poverty not captured by the CPS data is the persistence of poverty among given individuals and families. The primary purpose of this paper is to present data on the poverty status of persons in two consectutive years. The source of our data, the complete panel file from the 1984 Survey of Income and Program Participation (SIPP), provides information on poverty status for the years 1984 and 1985.

Before we examine the SIPP data, we will lay some groundwork by providing a brief description of the poverty definition and identifying some of the major differences between the CPS and SIPP surveys. The poverty definition that has now become official was developed by Mollie Orshansky, then at the Social Security Administration, in the mid-1960's. One element of the definition was the cost of an economy food plan as specified by the Department of Agriculture. The second element was a multiplier that transformed the cost of the food required by the family into the cost of all the goods and services required by the family. On the basis of a 1955 Department of Agriculture survey that showed that families spent about one-third of their income on food, the multiplier was set equal to three. Mollie Orshansky produced her estimates of the number of persons in poverty by comparing the annual income of each family or unrelated individual on the CPS data file against the poverty thresholds that she had developed.

There are three differences between CPS and SIPP that we should note before making comparisons between the two surveys. First, the shorter recall period in SIPP (SIPP respondents are asked about their income during the previous 4 months; CPS respondents are asked in March about their income during the previous calendar year) results in more accurate data on the receipt of transfer income. This difference would tend to result in SIPP poverty estimates that are lower than CPS poverty estimates. A second difference concerns the way in which self-employment is recorded. It is possible to record negative amounts in CPS, but not in SIPP. This difference would also tend to result in SIPP estimates of poverty that are lower than CPS estimates. A third difference between CPS and SIPP is the lack of information in CPS on changes in household composition. Income information in the CPS is collected in March following the reference year, and poverty estimates are made by assuming that the March household composition was in effect for the entire preceding calendar year. Income information and household composition information are collected on a monthly basis in the SIPP survey. SIPP poverty estimates are prepared by aggregating monthly family incomes and aggregating monthly poverty thresholds. An earlier study showed that the SIPP approach, which adjusts for changes in household composition, results in a poverty estimate that is about 5 percent lower than an estimate obtained using the CPS approach of assuming no change in household composition. The SIPP poverty estimates presented in this paper are based on the first panel file. An internal version of the file was created in May of this year and a public file was made available in June. The file contains monthly data for persons over a 32 month period. The staggered SIPP sample design means that the actual reference periods are different for each rotation of the panel. The actual reference periods include June 1983 to January 1986, July 1983 to February 1986, August 1983 to March 1986, and September 1983 to April 1986.

The preparation and weighting of a panel file presents special problems and special opportunities. The ability to examine previous or subsequent observations when imputing a missing data item is an opportunity. The need to develop weights that will control for differential attrition rates is a problem.

The file that was created made use of prior and subsequent observations in the imputation process and weighted the individual cases in such a way so that they added up to independent estimates of the population classifed by age, race, Hispanic origin, and sex. Each person on the panel file has been assigned three weights; a weight for calendar year 1984, a weight for calendar year 1985, and a weight for the 32 month period. In order to receive a non-zero weight, a person must have an observation for each month of the relevant reference period or have a complete set of observations up until the time he or she died or became institutionalized.

Most of the analysis presented in this paper is based on persons for whom a complete set of observations was obtained. The total weighted number of persons will fall short of the independent estimates of the total population because some persons with positive weights are excluded from the analysis. Namely, those who died or were institutionalized.

The conclusions drawn from the relationships shown in this paper may be affected if characteristics of persons with an incomplete set of observations differs from those with a complete set. A separate section of this paper will present data on this topic.

The use of the panel file to obtain estimates for 1984 and 1985 raises the issue of time-in-sample bias. There is ample evidence that certain measures vary according to the number of times the respondent has been visitied. In CPS,

for example, the measured unemployment rate is always higher for the group of households being interviewed for the first time than for the groups being interviewed for the second or later times. Later in this paper, we will discuss possible time-in-sample bias in poverty estimates from the SIPP panel file.

CPS AND SIPP POVERTY ESTIMATES: 1984 AND 1985

Estimates of the poverty rates for 1984 and 1985 from both the CPS and SIPP are shown in table 1. The SIPP estimates were obtained from those cases on the panel file that had a complete set of data for the 32 month period.

The SIPP estimates are lower than the CPS estimates for both 1984 and 1985 for each of the population groups shown. The difference may be attributable in part to the amount of transfer income captured by SIPP, in part to the failure of SIPP to record negative self-employment income, and in part to the CPS assumption that the household composition that existed in March was in place during the entire previous calendar year.

MOVEMENT INTO AND OUT OF POVERTY: 1984 TO 1985

For the purpose of examining movements into and out of poverty, we have classified persons for both 1984 and 1985 into three categories; poor, near-poor, and nonpoor. The near-poor category includes persons whose family (or personal) income was 100 to 124 percent of the appropriate poverty threshold. The results of cross-classifying 1984 status with 1985 status are shown in table 2.

About 19.3 million persons, or 8.7 percent of the population, were poor in both 1984 and 1985. Another 2.8 million, or 1.2 percent, were poor in 1984 and near-poor in 1985.

The number of persons who moved completely out of poverty, from poor in 1984 to non-poor in 1985, was 3.5 million. That is, out of a 1984 poverty population of 25.6 million, 3.5 million or 13.8 percent, moved completely out of the poverty population.

The basic nine categories can be manipulated to produce a variety of measures of economic status and economic change. Some of these measures are shown in table 3. The first five measures show different ways of presenting data on the proportion of the population directly affected by poverty. Persons who were poor in either 1984 or 1985 was 13.8 percent, and the percent who were either poor or near-poor in 1984 or 1985 was 19.0 percent. For each of the five measures, Blacks and persons of Hispanic origin had much higher rates than the general population. For example, 44 percent of Blacks and 38 percent of persons of Hispanic origin were poor or near poor in either 1984 or 1985. Measures 6, 7, and 8 show how the situation of persons who were poor in 1984 changed in 1985. Roughly three-quarters of these who were poor in 1984 remained poor in 1985, and 86 percent were either poor or near-poor in 1985. Fourteen percent of the poor became non-poor in 1985. The rate was about 15 percent for Whites, about 11 percent for Blacks, and about 8 percent for persons of Hispanic origin.

The final two measures show the proportion of the non-poor who fell into the categories of poor or near-poor in 1985. About 4 percent of the non-poor became poor or near-poor. Approximately 3 percent of Whites and 8 percent each of Blacks and persons of Hispanic origin moved from the non-poor category in 1984 to the poor or near-poor categories in 1985.

POVERTY STATUS AND PARTICIPATION IN MAJOR ASSISTANCE PROGRAMS

Data on the receipt of benefits from major assistance programs for persons classified by the nine categories of poverty status described above are presented in table 4. Major assistance programs were defined to include AFDC, General Assistance, SSI, Food Stamps, Medicaid, and Public or Subsidized Housing. The patterns appear reasonable - persons who were poor both years had the highest rate of uninterrupted participation (54 percent) and the lowest rate of non-participation (21 percent).

Among persons who were non-poor both years, about 2 percent received benefits in each of the 24 months, and 93 percent did not receive any benefits.

An alternative way of looking at the data is to examine the poverty characteristics of persons by their program participation status. The figures below show this percent distribution. Of those persons who received benefits during each of the 24 months, 60 percent were poor in both 1984 and 1985, 6 percent were near-poor in both years, and 18 percent were non-poor in both years. The remaining 16 percent were poor or near poor in in at least one of the years.

The fact that non-poor persons participated in programs is not evidence that mistakes were made in the operations of programs. The criteria for program participation allow for the participation of persons with incomes that are above 125 percent of the poverty line. We should also note that the failure of some persons in poverty to participate in assistance programs may be due to an inability to meet criteria other than their level of income. In particular, their asset levels may be too high to allow for program participation.

RELATIVE POVERTY STATUS

We have presented several measures of poverty status and the question arises as to whether the relative poverty status of any population subgroups are affected by the choice of measure. The data in table 6 show relative poverty rates for race, Hispanic origin, and age groups.

There are no dramatic differences in relative poverty rates among the six measures shown, but measures 5 and 6 show higher relative poverty rates for the elderly than do the usual CPS measures (measures 1 and 3).

PANEL DATA AND TIME-IN-SAMPLE AND ATTRITION BIAS

We have presented data above showing SIPP poverty estimates for 1984 and 1985 that are lower than CPS estimates and showing a decline in the SIPP poverty estimate from 1984 to 1985. Some caution should be exercised in accepting

these results, because of the possibility that they are influenced by the presence of time-in-sample and/or attrition bias in the SIPP estimates. We should recall that the SIPP estimates presented thus far are based on the responses for persons for whom we have obtained a complete 32 month set of data.

Time-in-sample bias arises when a person's response to a survey question (or the interviewer's method of asking a question) is influenced by what occurred in a previous visit. We have noted that there is strong evidence that CPS respondents become less likely to report that a period of unemployment occurred during succeeding visits from a CPS interviewer. The overlapping SIPP sample design will eventually provide the data that will allow for an examination of the presence of time-in-sample bias in SIPP estimates. That is, it is possible in SIPP to obtain estimates for a given time period from two or more separate panels and the amount of time respondents will have spent in the SIPP panel will differ for each of the panels. For example, estimates for each of the four quarters of 1985 can be obtained from both the 1984 and 1985 panels (the 1984 panel will have had more visits), and estimates for the first two quarters of 1986 can be obtained from the 1984 panel, the 1985 panel, and the 1986 panel.

Only a portion of the 1985 panel has been processed, so we have a very limited ability to examine estimates for a given time period that were produced from more than one SIPP panel. The data in table 7 show certain estimates for the first quarter of 1985. One set of estimates was prepared using data collected in the fifth and sixth waves of the 1984 panel. The other set was prepared using data collected in the first and second waves of the 1985 panel.

The figures in table 7 provide very weak evidence regarding the existence of time-in-sample bias for several reasons. First, most of the observed differences are smaller than the differences that could be explained by sampling variability. Second, a single observation is not sufficient to identify a pattern of bias. Third, differences may be attributable to attrition bias rather than time-in-sample bias. In spite of these qualifications, however, the observed relation ships offer some reason to be cautious in interpreting the differences that have been presented earlier in this paper - both the differences between CPS and SIPP estimates and the differences between the 1984 and 1985 estimates that were obtained from the SIPP. If the comparison is taken at face value, poverty estimtes produced from data collected late in the panel may be subject to a downward bias.

The data we have just examined were from wave files rather than the panel file. We turn back to the panel file to see if the data from that file can provide information on the possible presence of attrition bias.

Table 9 shows three categories of sample persons by sex, age, and program participation status. The number in the table are unit counts; they are not weighted. The category "complete set of interviews obtained" includes 32,391 persons, but 1,307 of these persons died or were institutionalized during the 32 month period. The next category, "Interviewed in first wave, left sample for reasons other than death or institutionalization" includes 21,357 persons, but approximately 9,200 of this group were dropped from the sample for budget reasons. The final category includes 10,279 persons who were not a member of a SIPP household during the first wave of interviews, but who subsequently became a member of a sample household.

A comparison of the first two columns shows that the characteristics of those who completed the full set of interviews are reasonably close to the characteristics of those who dropped out or were removed from the sample. The major differences in the age distribution are for young adults and the elderly. Young adults are underrepresented and the elderly are overrepresented in the group of persons who completed the full set of interviews. The data in table 9 are, as noted, unweighted, and any potential problem caused by unrepresentative age distributions are minimized when the file is weighted to independent controls.

CONCLUSIONS

The major purpose of this paper was to examine the poverty status of persons in two consecutive years using data from the first SIPP panel file. As background to this examination, we also provided some comparisons of poverty estimates from CPS and SIPP. We noted that SIPP produces lower estimates and offered some reasons for this result. One reason is that SIPP captures a larger amount of transfer income. A second reason is that it is not possible in SIPP to record negative self-employment income. A third reason is that SIPP provides complete information on any changes in household composition that might have occurred during the calendar year. We also explored the possibility that SIPP produces underestimates of the prevalence of poverty because of the existence of time-in-sample or attrition bias. We concluded that we have an insufficient number of observations to reach a judgment on the existence of time-in-sample bias and found little evidence of an attrition bias when we compared 1984 poverty estimates from those who stayed in the sample at least through calendar year 1984 with estimates from those who stayed in the sample for the entire thirty-two month period. We developed a number of poverty measures based on the relationship between poverty status in 1984 and poverty status in 1985. We found that 11.5 percent of the population was poor in 1984, 11.0 percent were poor in 1985, and 8.7 percent were poor in both years. Also, 13.8 percent of the population was poor in either 1984 or 1985, and 19.0 percent were poor or near-poor in either of those years.

The data also show the likelihood that a poor person would escape poverty and the likelihood that a non-poor person would fall into poverty. Three-fourths of those who were poor in 1984 were also poor in 1985, and 86 percent were either poor or near-poor in 1985. Among those who were non-poor in 1984, about 2 percent became poor in 1985 and about 4 percent became poor or near-poor. Among the non-poor, persons who were Black or of Hispanic origin were about twice as likely as Whites to become poor or near-poor.

Table 1. Percent of Persons Below Poverty Based on Data from the CPS and SIPP, 1984 and 1985

	1984		1985	
	CPS	SIPP	CPS	SIPP
All persons	14.4	11.5	14.0	11.0
SEX				
Male	12.8	10.0	12.3	9.4
Female	15.9	12.9	15.6	12.4
RACE AND HISPANIC ORIGIN[1/]				
White	11.5	8.7	11.4	8.5
Black	33.8	30.4	31.3	28.3
Hispanic origin	28.4	24.6	29.0	22.6
AGE				
Under 18	21.5	17.8	20.7	16.9
18 to 64	11.7	8.8	11.3	8.4
65 and over	12.4	10.8	12.6	10.9

1/Persons of Hispanic origin may be of any race.

Table 2. Changes in Poverty Status, 1984 to 1985

	Number	Percent distribution
All persons	222,418	100.0
Poor both years	19,289	8.7
Poor in 84, near-poor in 1985	2,751	1.2
Poor in 84, non-poor in 1985	3,517	1.6
Near-poor both years	3,928	1.8
Near-poor both in 84, poor in 85	2,105	1.0
Near-poor in 84, non-poor in 85	3,610	1.6
Non-poor both years	180,237	81.0
Non-poor in 84, poor in 85	3,009	1.4
Non-poor in 84, near-poor in 85	3,973	1.8

Table 3. Percent of Persons in Poverty and Changes in Poverty Status by Race

	All Persons	White	Black	Hispanic Origin[1]
Percent poor in 1984.....	11.5	8.7	30.4	24.6
Percent poor in 1985.....	11.0	8.5	28.3	22.6
Percent poor in both 1984 and 1985.....	8.7	6.4	24.3	19.4
Percent poor in one or both years.....	13.8	10.8	34.4	27.7
Percent poor or near-poor in one or both years.....	19.0	15.3	44.1	37.7
Percent of poor in 1984 who were poor in 1985.....	75.5	73.7	79.8	79.2
Percent of poor in 1984 who were poor or near-poor in 1985.....	86.2	85.1	88.6	92.0
Percent of poor in 1984 who were non-poor in 1985.....	13.8	14.9	11.4	8.0
Percent of non-poor in 1984 who were poor in 1985.....	1.6	1.3	4.4	2.0
Percent of non-poor in 1984 who were poor or near-poor in 1985.....	3.7	3.3	8.4	8.5

[1]/Persons of Hispanic origin may be of any race.

Table 4. Percent of Persons Receiving Benefits from Major Assistance Programs by Poverty Status

	Percent of persons age 15 and older receiving benefits		
	24 Months	1 to 23 months	No months
All persons	7.8	9.3	83.0
Poor both years	54.1	25.1	20.8
Poor in 84, near-poor in 85	29.7	40.5	29.8
Poor in 84, non-poor in 85	8.4	41.2	50.3
Near-poor both years	27.6	19.4	53.0
Near-poor in 84, poor in 85	17.1	33.8	49.0
Near-poor in 84, near-poor in 85	17.2	27.5	55.3
Non-poor both years	1.7	4.8	93.4
Non-poor in 84, poor in 85	9.5	37 6	52.8
Non-poor in 84, near-poor in 85	7.6	21.6	70.8

Table 5. Distribution of Program Participants by Poverty Status

	Number of months in which benefits were received		
	24 Months	1 to 23 Months	No Months
All persons	100.0	100.0	100.0
Poor both years	60.4	23.5	2.2
Poor in 84, near-poor in 85	4.7	5.4	0.4
Poor in 84, non-poor in 85	1.7	7.0	1.0
Near-poor both years	6.3	3.7	1.1
Near-poor in 84, poor in 85	2.1	3.5	0.6
Near-poor in 84, non-poor in 85	3.6	4.8	1.1
Non-poor both years	17.8	42.4	91.3
Non-poor in 84, poor in 85	1.7	5.5	0.9
Non-poor in 84, near-poor in 85	1.8	4.2	1.5

Table 6. Relative Poverty Rates by Race and Age

	Relative Poverty Rates (All person rate = 100)				
	White	Black	Hispanic origin[1]/	Persons under 18	Persons 65 and over
1. Poor in 1984 (CPS).....	80	235	197	149	86
2. Poor in 1984 (SIPP).....	76	264	214	154	94
3. Poor in 1985 (CPS).....	81	224	207	148	90
4. Poor in 1985 (SIPP).....	77	257	205	154	99
5. Poor in 1984 and 1985 (SIPP)..	74	279	223	162	105
6. Poor or near-poor in 1984 or 1985 (SIPP).....	81	232	198	140	113

1/Persons of Hispanic origin may be of any race.

Table 7. Estimates of Income and Program Participants from the 1984 and 1985 Panels of SIPP

	Estimates for the first quarter of 1985	
	Based on waves 5 and 6 of the 1984 panel	Based on waves 1 and 2 of the 1985 panel
1. Median income of non-farm households.....	$1,811	$1,790
2. Percent of households with monthly income below $300....	4.2	4.4
3. Percent of households with monthly income of $6,000 or more.....	4.2	4.5
4. Percent of households with low monthly income.....	12.9	13.6
5. Percent of persons who received food stamps.....	8.0	7.5
6. Percent of persons who were covered by Medicaid.....	7.5	7.0

Table 7. Transition Rates Based on 1 Month Rule, for Selected Programs

	TOTAL	No change		One change		2 or more changes	
		Participant each month	Non-participant each month	Participant in month 1	Non-participant in month 1	Participant in month 1	Non-participant in month 1
Any Major Program.....	100.0	7.2	81.7	2.5	1.7	2.3	4.5
AFDC or General Assistance.....	100.0	2.2	85.0	0.4	3.3	1.7	7.3
Food Stamps.....	100.0	2.7	83.3	0.7	1.7	4.5	7.2
Medicaid.....	100.0	2.7	83.0	0.6	1.0	3.8	8.9
Public or Subsidized Housing.....	100.0	1.4	84.1	0.3	0.6	1.9	11.7
Federal or State SSI.....	100.0	0.9	84.5	0.2	0.8	0.4	13.4
Private Health Insurance.....	100.0	57.2	5.9	2.9	4.1	16.1	13.6

Table 8. Transition Rates Based on 5 Month Rule, for Selected Programs

	TOTAL	No change		1 or more change	
		Participant each month	Non-participant each month	Participant in month 1	Non-participant in month 1
Any Major Program.....	100.0	9.4	85.5	2.6	2.5
AFDC or General Assistance.....	100.0	3.2	90.5	1.2	5.1
Food Stamps.....	100.0	4.8	88.1	3.1	4.1
Medicaid.....	100.0	4.7	87.8	2.5	5.0
Public or Subsidized Housing.....	100.0	2.1	90.0	1.5	6.4
Federal or State SSI.....	100.0	1.1	90.9	0.3	7.1
Private Health Insurance.....	100.0	68.8	13.8	7.6	9.8

Table 8. Percent of Persons Below Poverty for 1984 by Period Interviewed and Race and Hispanic Origin

	Percent of persons in poverty in 1984	
	Based on persons for whom complete data was obtained for calendar year 1984	Based on persons for whom complete data was obtained for thirty-two month period
All persons	11.7	11.5
White	8.9	8.7
Black	30.2	30.4
Hispanic origin[1]	24.4	24.6

[1] Persons of Hispanic origin may be of any race.

Table 9. Percent Distribution: Three Categories of Sample Persons

Characterisitic	Complete set of interviews obtained[1]	Interviewed in first wave, left sample for reasons other than death or institutionalization[2]	Not a member of a sample household during first wave, interview obtained in second or later waves
Total	32,391	21,357	10,279
	100.0	100.0	100.0
SEX			
Male	47.1	48.7	51.5
Female	52.9	51.3	48.5
AGE AT FIRST INTERVIEW			
Under 18 years	28.8	27.7	35.5
Under 6 years	9.9	9.3	22.9
18 to 24 years	10.7	14.2	24.6
25 to 44 years	28.5	29.5	25.4
45 to 64 years	19.5	19.3	11.2
65 years and over	12.5	9.3	3.4
75 years and over	4.8	3.2	1.4
PROGRAM PARTICIPATION: FIRST MONTH IN SAMPLE			
Persons 18 years and over	23,049	15,447	6,630
	100.0	100.0	100.0
Participated in major assistance program	9.5	9.3	10.0
AFDC or general assistance	2.3	2.9	3.2
Food stamps	5.4	5.4	4.9
Medicaid	5.5	5.2	5.9
Public/subsidized housing	3.0	3.0	2.3
SSI	2.1	1.4	1.8
Did not participate	90.5	90.7	90.0

[1] Includes 1,307 persons who died or were institutionalized during the 32 month period.

[2] Includes approximately 9,200 persons who were dropped from the panel for budget reasons.